

REMARKS

Applicants thank the Examiner for the courtesy of a telephone interview on February 23, 2005. During the interview, Applicants' representatives Frank R. Agovino and associate Robert Enyard, discussed the patentability of new claims 67-75 in view of the cited references. In particular, the arguments below were presented. Although the Examiner conceded that the cited references fail to explicitly disclose first and second processing control modules determining the power operating mode of first and second locomotives, respectively, as a function of fuel consumption or power consumption, no agreement was reached. No exhibit was shown and no demonstration was conducted.

Applicants have thoroughly considered the Examiner's remarks and have amended the claims to more clearly set forth the invention. Claims 25-66 have been canceled by this Amendment B and new claims 67-82 have been added. Applicants respectfully request allowance of claims 67-82 in light of the amendments and following remarks.

Claims 25-27, 31-33, 37-39, 49-51, 55-57 and 61-63 stand rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,950,967 to Montgomery (Montgomery). A claim is anticipated only if each and every element as set forth in the claim is disclosed, either expressly or inherently in a single prior art reference. Verdegal Bros. v. Union Oil Of California, 814 F.2d 628, 631 (Fed. Cir. 1987). Applicants submit that each and every element as set forth in new claims 67- 80 is not found, either expressly or inherently, in Montgomery. Thus, the cited references do not anticipate the claims.

Montgomery discloses a system and method for minimizing coupler forces in long trains. In particular, Montgomery discloses a train throttle and brake control apparatus for use in a train having a master locomotive and one or more slave locomotives remotely located in the train. In one embodiment, the apparatus disclosed in Montgomery includes a train force calculator which approximates train coupler forces as a function of track topography. In other words, Montgomery discloses a system that uses stored track elevation information along with a current position of the train to control throttle and braking to minimize coupler forces.

In contrast, applicants' invention relates to a system and method for managing locomotives in a consist in which the locomotives in the consists (e.g., lead locomotive and trailing locomotive) are each operated at a *different power operating mode as a function of a determined power consumption rate and/or a fuel consumption rate*. More specifically, a lead locomotive and a trailing locomotive (e.g., any locomotive in the consist other than the lead locomotive) are each equipped with a processing control module responsive to a control command from an operator (e.g., desired operating mode) or control system to control a power-operating mode of each of the locomotives in the consist as a function of *a fuel consumption rate as set forth in Claim 67 (or as a function of a determined power consumption rate as set forth in Claim 75)*. In one embodiment of the present invention, optimized power operating modes for each of the first and second locomotives are based on a known performance profile of the first and second locomotives. (See application page 21, paragraphs). The performance profiles may define a fuel consumption rate or a power consumption rate. For example, the power operating mode of each of the first and second locomotives may be determined as a function of received operating characteristics such as fuel level, fuel flow rate, and/or electric power generated by the locomotive. (See application page 21, paragraph 86).

To this end, new independent claim 67 recite, in part, "wherein the first and second processing modules determine the power operating mode of the first and second locomotives, respectively, as a function of a determined fuel consumption rate of at least one of the first and second locomotives." New independent claim 75 recites "the first and second processing modules determine the power operating mode of the first and second locomotives, respectively, as a function of a determined power consumption rate of at least one of the first and second locomotives. Montgomery, fails to teach or suggest determining an operating mode of both a leading and trailing locomotive as a function of a fuel consumption rate or a power consumption rate as defined by a performance profile. Accordingly, new claims 67 and 75 are allowable over the cited reference.

Claims 28, 34, 40, 43-46, 52, 58, and 64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Montgomery. Claims 29, 30, 35, 36, 41, 42, 47, 48, 53, 54, 59, 60, 65 and 66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Montgomery in view of either

U.S. Patent No. 5,969,643 to Curtis (Curtis) or U.S. Patent No. 4,401,035 to Spigarelli et al. (Spigarelli). As explained below, applicants submit that the cited references, whether considered alone or in combination as suggested in the Office action, fail to teach or suggest all of the features of applicants' claims. Thus, *prima facie* obviousness has not been established. (See MPEP 2142 and 2143.)

With respect to claims 28, 34, 40, 43-46, 52, 58, and 64, for the reasons above Montgomery, fails to teach or suggest determining an operating mode of both a leading and trailing locomotive as a function of a determined fuel consumption rate as set forth in Claim 67 or a power consumption rate as set forth in Claim 75. With respect to claims 29, 30, 35, 36, 41, 42, 47, 48, 53, 54, 59, 60, 65 and 66, the Examiner assert that in view of either Curtis or Spigarelli, it would have been obvious to one skilled in the art to use either one of the well known types of communication links similar to that of either Curtis or Spigarelli. (See Office action at page 3). Applicants disagree.

Curtis discloses a system for determining the relative position of a locomotive within a consist and/or a train and utilizing the determined relative position for train administration. In particular, Curtis discloses a list of uses for the determined relative position of each locomotive: verifying the configuration of locomotives (Curtis, column 4, lines 16-22), determining the speed and distance from other locomotives (Curtis, column 4, lines 23-27), comparing the speed and direction to confirm that all locomotives are part of the same train (Curtis, column 4, lines 27-32), determining locomotives that may have been omitted from the consist list (Curtis, column 4, lines 32-34), determining the distance between groups of locomotives (Curtis, column 4, lines 39-40), calculating the average position of each locomotive group (Curtis, column 4, lines 40-53), and comparing determined distances to expected distances to take action if the distances vary by a pre-determined variance (Curtis, column 4, lines 53-60). From this list, Curtis discloses determining a GPS location of locomotives in a consist and using the determined locations for purely administrative purposes, administering the composition of the train. Spigarelli discloses a control device for controlling a locomotive system such that individual locomotives in a consist can be operated in a fuel save mode to improve fuel efficiency while maintaining a set speed. In particular, Spigarelli discloses a control device which selectively

reduces the throttle settings of an individual locomotive in a consist while maintaining the consist at or near the set speed, as determined from a lead locomotive (see column 8, lines 9-16), by selectively placing one or more of trail locomotive units in a consist at a one half power setting (fuel save one condition) or at a No. 1 throttle setting which is essentially an idle position (fuel save two condition).

In contrast, the present invention discloses a system where *operating parameters* other than speed (e.g., fuel consumption rate as set forth in Claim 67 or power consumption rate as set forth in Claim 75) of the consist can be taken into account in determining the particular notch positions of the various locomotives of the consist. Neither Curtis nor Spigarelli teach or suggest first and second processing modules determining the power operating mode of the first and second locomotives, respectively, as a function of a determined fuel consumption rate (see claim 67), or as a function of a determined power consumption rate (see claim 74). In fact, Curtis does not disclose a locomotive or consist control system at all. Thus, whether considered alone or in combination Montgomery, Curtis, and Spigarelli fail to teach or suggest all of the features of the Applicants' new claims 67 and 74.

SUMMARY AND CONCLUDING REMARKS

In view of the foregoing, Applicants submit that new independent claims 67 and 75 are allowable over the cited art. The remaining dependent claims are believed to be allowable for at least the same reasons as the independent claims from which they depend.

For the reasons noted above, Applicants respectfully submit that claims 67-82 are in condition for allowance and respectfully requests favorable reconsideration of this application. Although the prior art made of record and not relied upon may be considered pertinent to the disclosure, none of these references anticipates or makes obvious the recited invention.

The fact that Applicants may not have specifically traversed any particular assertion by the Office should not be construed as indicating Applicants' agreement therewith.

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The Commissioner is hereby authorized to charge any deficiency or overpayment of any required fee during the entire pendency of this application to Deposit Account No. 07-0846.

Respectfully submitted,



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